REMARKS:

Claims 15, 16, 62-65 are canceled herein without prejudice or disclaimer. Claims 2-12, 17, 20-24, 40 and 59 were previously canceled without prejudice or disclaimer. Claims 66-71 are newly added. No new matter is added.

The claims are amended as indicated in the preceding pages. As one non-limiting example, support for the amendments to independent claim 1 can be found in the specification at least at pages 8-9, paragraphs [0035]-[0039]. As a further non-limiting example, support for the processor recited in claim 42 can be found in the specification at least at page 5, paragraph [0018]. No new matter is added.

In view of the above-noted claim amendments, claims 1, 13, 14, 18, 19, 25-39, 41-58, 60, 61 and 66-71 are currently pending, with claims 1, 18, 19 and 42 being independent claims.

The Examiner rejected claims 64 and 65 under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. *See p. 5 of the Final Office Action.* It is believed that the cancellation of claims 64 and 65 should render this rejection moot. The cancellation of claims 64 and 65 should not be construed as an admission, explicit or implicit, concerning the Examiner's rejection of these claims and/or the alleged basis and arguments therefor.

The Examiner rejected claims 1, 29-33, 36, 38, 41-43, 48-52, 55, 57 and 60 under 35 U.S.C. §103(a) as being unpatentable over *Zhang et al.* ("Reduced-State MIMO Sequence Estimation for EDGE Systems," Signals, Systems and Computers, 2002. Conference Record of the Thirty-Sixth Asilomar Conference, Nov. 3-6, 2002, Vol. 1, pp. 541-545, referred to below as "*Zhang*") in view of *Olsson et al.* (U.S. Patent Application Publication No. 2005/0111596, referred to below as "*Olsson*"). *See pp. 5-12 of the Final Office Action.* The Examiner rejected claims 13-16, 18, 19 and 61 under 35 U.S.C. §103(a) as being unpatentable over *Olsson* in view of *Zhang*. *See pp. 12-18 of the Final Office Action.* The Examiner rejected claims 25-28, 34, 35, 44-47, 53 and 54

under 35 U.S.C. §103(a)) as being unpatentable over *Zhang* in view of *Onggosanusi et al.* (U.S. Patent Application Publication No. 2004/0192215, referred to below as "*Onggosanusi*"). *See pp. 18-23 of the Final Office Action.* The Examiner rejected claims 37 and 56 under 35 U.S.C. §103(a) as being unpatentable over *Zhang* in view of *Olsson* and further in view of *Hafeez et al.* ("Interference Cancellation for EDGE via Two-User Joint Demodulation," Vehicular Technology Conference, 2003. VTC 2003-Fall.2003 IEEE 58th, publication date Oct. 6-9, 2003, Vol. 2, pp. 1025-1029, referred to below as "*Hafeez*"). *See pp. 23-24 of the Final Office Action.* The Examiner rejected claims 39 and 58 under 35 U.S.C. §103(a) as being unpatentable over *Zhang* in view of *Hafeez. See pp. 24-25 of the Final Office Action.* The Examiner rejected claims 62-65 under 35 U.S.C. §103(a) as being unpatentable over *Zhang* in view of *Olsson* and further in view of *Hafeez. See pp. 25-28.* These rejections are respectfully disagreed with and are traversed below.

Amended claim 1 recites:

> A method, comprising:
>
> receiving a composite wireless communication signal by a receiver;
>
> **splitting a corresponding complex composite base band received signal into an inphase domain portion and a quadrature domain portion**; and
>
> performing, on the split corresponding complex composite base band received signal, **joint signal detection separately in inphase domain and quadrature domain**, where the joint signal detection comprises performing pre-filtering and reduced state sequence estimation **separately on the inphase domain portion and the quadrature domain portion,** where the composite wireless communication signal comprises a desired signal and an interfering signal, where the joint signal detection operates to suppress interference from the interfering signal.

As recited in amended claim 1, the corresponding complex composite base band received signal is split into an inphase (I) domain portion and a quadrature (Q) domain portion. A non-limiting example of this process is described in the specification at least at pages 8-9, paragraphs [0035]-

[0047]. As further recited in amended claim 1, joint signal detection is performed on the split corresponding complex composite base band received signal ***separately*** in inphase domain and quadrature domain. The joint signal detection includes performing pre-filtering and reduced state sequence estimation ***separately*** on the inphase domain portion and the quadrature domain portion of the split corresponding complex composite base band received signal. As an example, and as noted in the specification, for example, at paragraphs [0014] and [0027], these operations enable a receiver to utilize a single antenna for reception of a MIMO signal.

It is respectfully submitted that neither *Zhang*, *Olsson* nor *Hafeez*, considered separately or in combination, disclose or suggest "**splitting a corresponding complex composite base band received signal into an inphase domain portion and a quadrature domain portion**; and performing, on the split corresponding complex composite base band received signal, **joint signal detection separately in inphase domain and quadrature domain**, where the joint signal detection comprises performing pre-filtering and reduced state sequence estimation **separately on the inphase domain portion and the quadrature domain portion**," as recited in claim 1. Neither *Zhang*, *Olsson* nor *Hafeez* disclose or suggest splitting the base band signal into inphase (I) and quadrature (Q) portions and performing join signal detection ***separately*** on the I and Q portions.

The features recited in amended claim 1 are not disclosed or suggested in the cited art. *Zhang* in view of *Olsson* certainly does not render amended claim 1 obvious. Therefore, claim 1 is patentable and should be allowed.

Though dependent claims 25-39 and 41 contain their own allowable subject matter, these claims should at least be allowable due to their dependence from allowable claim 1.

Independent claims 18, 19 and 42 claim similar features as claim 1 noted above. For the same reasons stated above with respect to claim 1, independent claims 18, 19 and 42 are not rendered obvious by any combination of *Zhang*, *Olsson* and *Hafeez*. Therefore, claims 18, 19 and 42 are patentable and should be allowed.

Though dependent claims 13 and 61 (depending from claim 18); and dependent claims 43-58, 60 and 66-71 (depending from claim 42) contain their own allowable subject matter, these claims should at least be allowable due to their dependence from allowable independent claims 18 and 42.

The Applicants respectfully reserve the right to argue one or more of the dependent claims in response to any subsequent action, such as in responding to any further Office Action and/or in any Appeal Briefs. No admission, explicit or implicit, is made regarding the Examiner's reasoning and arguments in rejecting any of the dependent claims.

The Examiner is respectfully requested to reconsider and remove the rejections of claims 1, 13, 14, 18, 19, 25-39, 41-58, 60 and 61 under 35 U.S.C. §103(a) and to allow all of the pending claims 1, 13, 14, 18, 19, 25-39, 41-58, 60, 61 and 66-71 as now presented for examination. For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record. Should any unresolved issue remain, the Examiner is invited to call Applicants' agent at the telephone number indicated below.

Respectfully submitted:

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June 1, 2009

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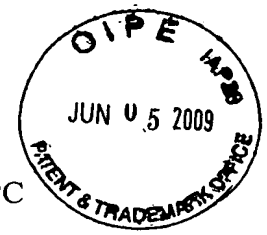

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I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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6/1/2009 — Date